Claims:

1.   A method of providing a selectable retry strategy for frame-based communications, comprising:

programming a retry value to indicate a selected one of no retry or a retry count;

5   transmitting a frame that is associated with the selected retry value; and

suppressing retransmission of the frame regardless of the retry count if the retry value indicates no retry.

2.   The method of claim 1, further comprising:

said programming a retry value including programming the retry value to indicate

10   a selected one of no retry, a first retry count or a second retry count.

3.   The method of claim 2, wherein the first retry count is a normal retry count and wherein the second retry count is an alternative retry count.

4.   The method of claim 1, wherein said programming a retry value comprises programming the retry value to indicate a retry count or treating a first attempt as

15   successful and not retrying transmission.

5.   The method of claim 1, wherein said programming a retry value comprises programming the retry value to indicate a selected one of: a retry count; treating a first attempt as successful and not retrying transmission; and returning an unsuccessful transmission attempt as a failure and not retrying transmission.

20   6.   The method of claim 5, further comprising:

attempting retransmission as many times as indicated by the retry count if the retry count is selected;

said suppressing retransmission comprising suppressing retransmission of the frame if the retry value is programmed to indicate treating a first attempt as successful; and

said suppressing retransmission comprising suppressing retransmission of the frame and indicating transmission failure if the retry value is programmed to indicate returning an unsuccessful transmission attempt as a failure and if an acknowledgement is not received.

7.   The method of claim 1, further comprising:

specifying a frame lifetime for the associated frame indicating a maximum retry time; and

attempting retransmission until expiration of the frame lifetime or as many times specified by the retry count, whichever occurs first.

8.   The method of claim 1, further comprising:

said programming a retry value comprising programming the retry value to indicate treating a first attempt as successful and not retrying transmission; and

programming the frame to indicate that acknowledgement is not requested.

9.   The method of claim 8, wherein said programming the frame comprises programming at least one bit in a duration/ID field of the frame.

10.   The method of claim 8, wherein said programming the frame comprises programming at least one bit of a Quality of Service (QoS) field of the frame.

11.   The method of claim 8, further comprising:

transmitting a second frame before completion of an acknowledgement period of time.

12.   The method of claim 1, wherein said programming a retry value comprises programming a retry strategy field of a frame descriptor associated with the frame.

13.   The method of claim 12, wherein said programming a retry strategy field of a frame descriptor comprises programming a frame descriptor for each frame to be transmitted to indicate a selected one of: a normal retry count; an alternative retry count; treating a first attempt as successful and not retrying transmission; or returning an unsuccessful transmission attempt as a failure and not retrying transmission.

14.   The method of claim 13, further comprising:

attempting retransmission as many times as indicated by the normal retry count if the retry value is programmed to indicate the normal retry count;

attempting retransmission as many times as indicated by the alternative retry count if the retry value is programmed to indicate the alternative retry count;

said suppressing retransmission comprising suppressing retransmission of the frame if the retry value is programmed to indicate treating a first attempt as successful; and

said suppressing retransmission comprising suppressing retransmission of the frame and indicating transmission failure if an acknowledgement is not received and if the retry value is programmed to indicate returning an unsuccessful transmission attempt as a failure.

15.   The method of claim 14, further comprising:

specifying a frame lifetime for the associated frame indicating a maximum retry time;

attempting retransmission until expiration of the frame lifetime or as many times as indicated by the normal retry count, whichever occurs first, if the retry value is programmed to indicate the normal retry count; and

attempting retransmission until expiration of the frame lifetime or as many times as indicated by the alternative retry count, whichever occurs first, if the retry value is programmed to indicate the alternative retry count.

16.   The method of claim 1, wherein said transmitting a frame comprises transmitting the frame via a wireless medium.

17.   A method of improving usage of a wireless medium, comprising:

applying, by a first transceiver system, a no retry strategy to a first frame so that retransmission of the first frame will not be attempted;

programming, by the first transceiver system, the first frame with an indication

5   that acknowledgement is not requested;

transmitting, by the first transceiver system, the first frame via the wireless medium;

successfully receiving, by a second transceiver system, the first frame via the wireless medium;

10   detecting, by the second transceiver system, the no acknowledgement indication; and

suppressing sending, by the second transceiver system, an acknowledgement frame in response to successfully receiving the first frame.

18.   The method of claim 17, wherein said applying a no retry strategy

15   comprises programming a retry strategy field associated with the first frame with a no retry indication.

19.   The method of claim 18, wherein said programming a retry strategy field comprises programming a frame descriptor of the first frame.

20.   The method of claim 17, wherein said programming comprises

20   programming at least one bit of a field of the first frame.

21.   The method of claim 17, wherein said programming comprises programming at least one bit of a duration/ID field of the first frame.

22.   The method of claim 17, wherein said programming comprises programming at least one bit of a Quality of Service control field of the first frame

23.   The method of claim 17, further comprising:

transmitting, by the first transceiver system via the wireless medium, a second frame prior to expiration of a predetermined inter-frame gap period after transmission of the first frame.

24.   The method of claim 17, further comprising:

transmitting, by the first transceiver system via the wireless medium, a second frame prior to expiration of a predetermined acknowledgement period after transmission of the first frame.

25.   A frame-based communications system with selectable retry strategy, comprising:

a controller that programs a retry value associated with a frame, the retry value indicating a selected one of no retry and a retry count; and

5   a transceiver, coupled to the controller, that transmits the frame at least once, that attempts retransmission of the frame up to as many times indicated by the retry count if the retry value indicates the retry count, and that does not attempt retransmission of the frame if the retry value indicates no retry.

26.   The communications system of claim 25, wherein the controller comprises 10   a scheduling entity that programs a retry value for each frame to be transmitted.

27.   The communications system of claim 26, wherein the transceiver comprises:

a queue; and

a frame manager that receives and enqueues frames into the queue and that 15   determines the retry value for each enqueued frame.

28.   The communications system of claim 27, further comprising:

the scheduling entity configured to program a retry strategy field of a frame descriptor for each frame to be transmitted; and

the frame manager configured to determine the retry value for each frame from 20   the retry strategy field of a corresponding frame descriptor.

29.   The communications system of claim 25, further comprising:

the controller configured to program a frame lifetime that specifies a maximum time for attempting retries for the frame; and

the transceiver configured to transmit the frame at least once and that attempts retransmission of the frame until expiration of the frame lifetime or for as many times indicated by a retry count, if specified, whichever occurs first.

30.   The communications system of claim 25, wherein the controller is configured to program the retry value to indicate a selected one of: a normal retry count; an alternative retry count; and treating a first attempt as successful and not retrying transmission.

31.   The communications system of claim 25, wherein the controller is configured to program the retry value to indicate a selected one of: a normal retry count; an alternative retry count; treating a first attempt as successful and not retrying transmission; or returning an unsuccessful transmission attempt as a failure and not retrying transmission.

32.   The communications system of claim 25, wherein the transceiver further comprises:

a transmission scheduler that programs a frame for transmission with an acknowledgement request indicating whether acknowledgement of successful receipt of the frame is requested.

33.   The communications system of claim 32, wherein the transmission scheduler programs the duration/ID field of the frame with the acknowledgement request.

34.   The communications system of claim 32, wherein the transmission scheduler programs a Quality of Service control field of the frame with the acknowledgement request.

35.   The communications system of claim 32, wherein the transmission scheduler is configured to program the frame with a no acknowledgment request and to schedule transmission of a subsequent frame before expiration of a predetermined acknowledgement period.

36.   The communications system of claim 25, wherein the transceiver further comprises:

receive logic that is configured to send an acknowledgement frame by default in response to a successfully received frame; and

acknowledgement logic, coupled to the receive logic, that is configured to instruct the receive logic to suppress sending an acknowledgement frame if an acknowledgement request of a successfully received frame indicates that acknowledgement is not requested.

37.   The communications system of claim 25, wherein the controller and transceiver are implemented as a wireless access point.

38.   The communications system of claim 25, wherein:

the controller is implemented on a computer system, comprising:

a memory that stores application software;

a processor, coupled to the memory, that executes the application software to perform controller functions; and

an expansion bus system coupled to the memory and the processor; and

the transceiver is implemented on an expansion card that interfaces the expansion bus system of the computer system.

39.   The communications system of claim 38, the transceiver comprising:

a host interface;

a media access control (MAC) device coupled to the host interface; and

a radio, coupled to the MAC device, that enables wireless communications.

40.   The communications system of claim 39, wherein the MAC device comprises:

5   a queue;

a frame manager, coupled to the queue, that receives and enqueues frames into the queue and that detects a retry value for each frame; and

a transmission scheduler, coupled to the queue and the frame manager, that dequeues frames from the queue and that transmits frames in accordance with an

10   associated retry value.

41.   The communications system of claim 40, further comprising:

the retry value including a no retry and return unsuccessful attempt as failure indication;

receive logic, coupled to the transmission scheduler, that is configured to receive

15   frames including acknowledgement frames; and

the transmission scheduler configured to return an unsuccessful indication if an acknowledgement frame is not received within a predetermined period of time for a frame transmitted once and having a no retry and return unsuccessful attempt as failure indication.

20   42.   The communications system of claim 40, wherein the transmission scheduler includes retry logic that selectively programs frames for transmission with an acknowledgement request.

43.   The communications system of claim 42, further comprising:

the retry value including a no retry and treat first attempt as successful indication; and

the retry logic selectively programming a frame associated with a no retry and treat first attempt as successful indication with an acknowledgement request indicating that acknowledgment is not requested for that frame.

44.   The communications system of claim 43, wherein the MAC device further comprises:

receive logic that is configured to send an acknowledgement frame by default in response to a successfully received frame; and

acknowledgement logic, coupled to the receive logic, that is configured to instruct the receive logic to suppress sending an acknowledgement frame if an acknowledgement request of a successfully received frame indicates that acknowledgement is not requested.